



Module (Course Syllabus) Catalogue 2022-2023

College/ Institute	Erbil Technology College	
Department	Automation Industrial Technology Engineering	
Module Name	Mathematic	
Module Code	MAT104	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input checked="" type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	First	
Qualification	MSc Electronic & control Engineering	
Scientific Title	Lecturer	
ECTS (Credits)	5	
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	3	
Weekly hours (Theory)	(2)hr Class	(81)Total hrs Workload
Weekly hours (Practical)	(1)hr Class	(98)Total hrs Workload
Number of Weeks	14	
Lecturer (Theory)	Brzo Aziz Qadir	
E-Mail & Mobile NO.	Brzo.qadir@epu.edu.iq	
Lecturer (Practical)		
E-Mail & Mobile NO.		
Websites	www.Epu.edu.iq	

Course Book

Course Description	. This course provides students with an individualized mathematics curriculum to prepare them for further mathematics course work in their program. Students will take a diagnostic assessment, the results of which will outline their individualized math study path. Due to the individualized nature of this course, not all students are expected to complete all course outcomes. Topics will include: solving and graphing linear equations and inequalities; working with variables, exponents, polynomials, and factoring. Depending on your math pathway, additional topics may include expressions and equations that are rational, radical, quadratic, exponential, and logarithmic.				
Course objectives	The Mathematics program promotes mathematical skills and knowledge for their intrinsic beauty, effectiveness in developing proficiency in analytical reasoning, and utility in modeling and solving real world problems. To responsibly live within and participate in the transformation of a rapidly changing, complex, and interdependent society, students must develop and unceasingly exercise their analytical abilities. Students who have learned to logically question assertions, recognize patterns, and distinguish the essential and irrelevant aspects of problems can think deeply and precisely, nurture the products of their imagination to fruition in reality, and share their ideas and insights while seeking and benefiting from the knowledge and insights of others.				
Student's obligation	The presence of students in both lectures and Lab will have additional credit .He /She is required to continuously follow the lectures ,Submits homework and reports .Anticipate Tests or quizzes any time in Class or Lab				
Required Learning Materials	Psychics ,Electronic ,Digital Electronic and Mathematics				
Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome	
	Paper Review				
	Assignments	Homework	10		
		Class Activity			
		Report	10		
		Seminar			
Essay					

	Project	5		
	Quiz	10		
	Lab.	10		
	Midterm Exam	16		
	Final Exam	40		
	Total			
Specific learning outcomes:	<ol style="list-style-type: none"> 1) Identifying the parameters of passive and active electronic components from technical datasheets 2) Schematic design of electronic circuits and simulation of the designed circuit 3) Designing pcb footprints of electronic components 4) Describing fundamentals of pcb design 5) Describing multilayer (2-32) pcb design 6) Describing the fundamentals of analogue circuit design on pcb 7) Describing the fundamentals of high speed digital circuit design on pcb 8) Explaining signal integrity and differential signal routing and crosstalk 9) Describing the fundamentals of power circuit and RF circuit design on pcb 10) Explaining pcb manufacturing processes, gerbera creation and IPC standards 11) Defining EMC guidelines for pcb layout 			
Course References:	<p>Mathematics by Max Brandenberger (Editor) ISBN: 9780028659046 Publication Date: 2003-10-01</p> <p>Handbook of Graph Theory and Applications by Jonathan L. Gross; Jay Yellen Call Number: QA166 .H36 2004 ISBN: 1584880902 Publication Date: 2003 Calculus 10 edition</p>			
Practical Topics		Week	Learning Outcome	
Introduction to Matrix		1	Define Matrix	
Complex Number		2	Learn property of complex number	
Solving Electrical Circuit		3	Learn solve different types of	

		Electric circuit
Derivative	4	Distinguish between all types Functions
Derivative of Trigonometric functions +Exponential + Logarithmic Functions	5	Given application of Derivatives
Integration	6	Given application different types of examples
Integration By parts	7	Solve the practical examples for
Double Integration	8,9	Explain Application's og integral
Double Integration	10	Applications
Triple Integration	11,12	Solved examples

Extra notes:

I will assess the students continuously through their activities in the class. Any student with thoughts about learning, and suggestions of different way of dealing with difficulties and problems will be very welcomed.

Showing relevant laboratory equipment, technical videos, and other academic activities are part of the course model.

External Evaluator

General evaluation of course objectives and content.

General evaluation of lectures/ Practical sessions.

General evaluation of lecturer.